

REMARKS

Status of Claims

Claims 1, 2, 4, 5, 19, 25-28, 30-32, 34, 36-41, 43-45, and 48 are pending herein.

Claims 6-14, 22 and 23 were previously cancelled.

Withdrawn claims 3, 15-18, 20, 21, 24 and 33 are cancelled herein as are rejected claims 29, 35, 36, 42, 46 and 47.

Claims 25-27, 30, 34, 37, 38, 40, 43, 45 and 48 are allowed.

Claims 19 and 32, which were objected to by the Examiner, have been amended as suggested by the Examiner.

Of the claims remaining, claims 1, 2, 4, 5, 28, 31, 34, 39, 41 and 44 are rejected.

All claim amendments made herein correspond to either (a) claim cancellations or (b) claim amendments as suggested by the Examiner to overcome the Examiner's objections. Entry is therefore requested.

Claim Rejection under 35 USC 112, second paragraph

The Examiner's withdrawal of the rejection of claim 19 under 35 USC 112, second paragraph, is noted with appreciation.

Rejection Under 35 U.S.C. §102(b)--Mori

The Examiner's withdrawal of the rejection of claims 1, 4, 5, 25, 27-32 and 34-37 under 35 U.S.C. 102(b) as being anticipated by Mori et al., JP 06128289 (Mori) is noted with appreciation.

Rejection Under 35 U.S.C. §102(e)--Zamora

The Examiner's withdrawal of the rejection of claims 1, 4, 5, 25, 27-32 and 34-37 under 35 U.S.C. 102(e) as being anticipated by Zamora, US 7,297,343 (Zamora) is noted with appreciation.

Objection to Claim 26

The Examiner's withdrawal of the objection to claim 26 as being a substantial duplicate of allowed claim 38 is noted with appreciation.

Claim rejection under 35 USC 103(a)—Bellamkonda

Claims 1, 2, 4, 5, 19, 28, 29, 31, 35, 36, 39, 41, 42, 44, 46 and 47 are rejected under 35 USC 103(a) as unpatentable over Bellamkonda et al., US 5,834,029 (Bellamkonda). This rejection is respectfully traversed.

The rejection of claim independent claims 1, 28 and 31 and claims 2, 4, 5, 19, 39, 41 and 44 depending therefrom, is traversed. The remaining claims (29, 35, 36, 42, 46 and 47) are cancelled herein.

For a proper obviousness rejection, the differences between the subject matter sought to be patented and the prior art must be such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. 35 U.S.C. 103.

The synthetic biomaterial of claims 1, 28 and 31 comprises/consists of: (a) a bioactive polymer comprised of at least one peptide and/or protein subunit (e.g., a cell adhesion peptide, etc.) and at least one polysaccharide and/or proteoglycan subunit, wherein the at least one peptide and/or protein subunit is covalently bonded to the at least one polysaccharide and/or proteoglycan subunit and (b) a biocompatible polymer (e.g., synthetic polymer such as a polyurethane, etc.) that is different from said bioactive polymer.

Note that the bioactive polymer and the biocompatible polymer claimed in claims 1, 28 and 31 form a single synthetic biomaterial. Examples of such a biomaterial include a biocompatible polymer to which at least one bioactive polymer is covalently bonded by graft polymerization, copolymerization or cross-linking and a polymer blend comprising at least one biocompatible polymer and at least one bioactive polymer. See the Abstract of the present specification.

As indicated in the Office Action, Bellamkonda describes a bioartificial three-dimensional hydrogel extracellular matrix derivatized with a cell adhesive peptide fragment. See Abstract. In some embodiments, the hydrogel matrix is an agarose hydrogel matrix. *Id.* In some embodiments, ECM proteins are covalently immobilized to the hydrogel backbone. Col. 5, lines

33-39. Bellamkonda further describes a nerve guidance channel which contains a tubular semi-permeable membrane having openings adapted to receive the ends of a severed nerve, and an inner lumen containing the hydrogel matrix having an adhesive peptide fragment through which the nerve can regenerate. See Abstract. Polymeric membranes forming the nerve guidance channel may include polyurethanes, among others. Col. 12, lines 17-26.

Thus, Bellamkonda, like claims 1, 28 and 31, describes a bioactive polymer and a biocompatible polymer. Bellamkonda does not, however, describe a single synthetic biomaterial that comprises the bioactive polymer and the biocompatible polymer. Rather Bellamkonda describes these polymers as separate materials. Specifically, Bellamkonda describes a nerve guidance channel which contains (a) a tubular semi-permeable membrane (which may be formed of polyurethane as a biocompatible polymer) and (b) and a hydrogel matrix (specifically, a bioactive polymer consisting of an agarose hydrogel with covalently immobilized ECM proteins) within the tubular membrane.

Thus, independent claims 1, 28 and 31 and claims 2, 4, 5, 19, 39, 41 and 44 dependent therefrom are patentable over Bellamkonda. (With regard to claim 5, it is further noted that Bellamkonda does not teach or suggest the use of the materials of claim 5 as claim. Heparin is mentioned, but rather than being covalently bound, it is described as complexed with laminin.)

Withdrawal of the rejection of independent claims 1, 28 and 31 (and claims 2, 4, 5, 19, 39, 41 and 44 dependent therefrom) is thus requested.

Objection to Claims 19 and 32

Claims 19 and 32 are objected to by the Examiner. These claims have been amended as suggested by the Examiner. Withdrawal of the objection to these claims is respectfully requested.

Claims 19 and 34

Claim 19 is both rejected and objected to in the body of the Office Action. Clarification is respectfully requested. Allowance is respectfully requested.

Conclusion

Should the Examiner be of the view that an interview would expedite consideration of the application, request is made that the Examiner telephone the Applicants' attorney at (703) 433-0510 in order that any outstanding issues be resolved.

The Office is authorized to charge any fees required, to deposit account number 50-1047.

Respectfully submitted,

/David B. Bonham/

Attorney for Applicant
Mayer & Williams, PC
251 North Avenue West, 2nd Floor
Westfield, NJ 07090
Tel.: 703-433-0510
Fax: 703-433-2362

David B. Bonham
Registration No. 34,297